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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,855	11/25/2003	Michiel J. van Nieuwstadt	202-0256 cont. (FGT 306CO	8559
36865	7590	05/04/2004	EXAMINER	
KOLISCH HARTWELL, PC 200 PACIFIC BUILDING 520 SW YAMHILL STREET PORTLAND, OR 97204			NGUYEN, TU MINH	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/722,855

Applicant(s)

VAN NIEUWSTADT ET AL.

Examiner

Tu M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 30-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-47 is/are rejected.
- 7) ☒ Claim(s) 48 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 112503.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. An Applicant's Preliminary Amendment filed on November 25, 2003 has been entered. Claims 1-29 have been canceled. Claims 30-48 have been added and are pending in this application.

#### ***Claim Objections***

2. Claims 31, 32, and 34-48 are objected to because of the following informalities:
  - Claims 31, 32, 34-39, and 41-48, each of these claims is dependent upon a canceled base claim or a canceled dependent claim.
  - Claim 40, line 4 of the claim, "capable of" renders the claim indefinite. Therefore, "capable of" should read --adapted for--.Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 30-39 are rejected under 35 U.S.C. 112, second paragraph, because each of the base claims 30 and 33 recites the limitation "the reductant injector". There is insufficient antecedent basis for this limitation in each of these base claims.

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 30 and 32-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Bromberg et al. (U.S. Patent 6,560,958).

Re claim 30, as shown in Figure 4, Bromberg et al. disclose a method for controlling an emission system, the system having an engine and an exhaust through which exhaust gasses flow, the exhaust having at least a first (32) and second (42) catalyst arranged in parallel adapted for reducing NOx emissions with incoming reductants, and the exhaust also having at least one reductant delivery device (a reductant is provided to the exhaust gas by a single valve as clearly illustrated in Figure 4), the reductant delivery device located downstream of engine, the method comprising:

- operating in a first mode where exhaust gasses flow to the first catalyst (32), and during at least a first interval while in the first mode, providing reductant from the reductant delivery device into the exhaust system that reaches the second catalyst (42) to reduce NOx in the second catalyst (see lines 21-44 of column 4); and

- operating in a second mode where exhaust gasses flow to the second catalyst (42), and during at least a second interval while in the second mode, providing reductant from the reductant delivery device into the exhaust system that reaches the first catalyst (32) to reduce NO<sub>x</sub> in the first catalyst,

wherein the reductant delivery device is in the engine exhaust, and the first catalyst and the second catalyst have a differing characteristic (one catalyst is adsorbing NO<sub>x</sub> while at the same time, the other catalyst is desorbing NO<sub>x</sub>).

Re claim 32, the engine in the method of Bromberg et al. is a diesel engine (line 1 of column 2).

Re claims 33 and 40, as illustrated in Figure 4, Bromberg et al. disclose a method for controlling an emission system, the system having an engine and an exhaust through which exhaust gasses flow, the exhaust having at least a first (32) and second (42) catalyst arranged in parallel adapted for reducing NO<sub>x</sub> emissions with incoming reductants, and the exhaust also having at least one reductant delivery device (a reductant is provided to the exhaust gas by a single valve as clearly depicted in Figure 4), the reductant delivery device located downstream of engine, the method comprising:

- when requested based on a first operating condition, diverting at least a portion of exhaust gas flow from the second catalyst (42) and providing reductant from the reductant delivery device into the exhaust system that reaches the second catalyst to reduce NO<sub>x</sub> in the second catalyst (see lines 21-44 of column 4); and

- when requested based on a second operating condition, diverting at least a portion of exhaust gas flow from the first catalyst (32) and providing reductant from the reductant delivery

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device into the exhaust system that reaches the first catalyst to reduce NOx in the first catalyst, wherein the reductant delivery device is in the engine exhaust.

Re claims 34-35 and 44-45, in the method of Bromberg et al., the first condition is a condition of the second catalyst (42), wherein the first condition is an amount of NOx stored in the second catalyst.

Re claims 36-37 and 46-47, in the method of Bromberg et al., the second condition is a condition of the first catalyst (32), wherein the second condition is an amount of NOx stored in the first catalyst.

Re claim 38, in the method of Bromberg et al., the reductant delivery device is coupled to a valve in the engine exhaust (as clearly shown in Figure 4).

Re claim 41, in the method of Bromberg et al., all of the exhaust gas flow is diverted from the second catalyst (42) when requested based on the first operating condition (see lines 8-16 of column 4).

Re claim 42, in the method of Bromberg et al., all of the exhaust gas flow is diverted from the first catalyst (32) when requested based on the second operating condition.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. Claims 39 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bromberg et al. as applied to claims 38 and 40, respectively, above, in view of design choice.

The method of Bromberg et al. discloses the invention as cited above, however, fails to disclose that the reductant delivery device is a diesel fuel injector.

With regard to applicants claim directed to a specified type of reductant, the specification of such would have been an obvious matter of design choice well within the level of ordinary skill in the art depending on design variables, such as the availability of the reductant, the cost of the reductant system, etc. Moreover, there is nothing in the record which establishes that the specification of such presents a novel of unexpected result (See *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)).

#### ***Allowable Subject Matter***

9. Claim 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office Action and to include all of the limitations of the base claim and any intervening claims.

Claim 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Prior Art***

10. The IDS (PTO-1449) filed on November 25, 2003 has been considered. An initialized copy is attached hereto.

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11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of two patents and two patent applications: Hirota et al. (U.S. Patent 6,502,391), Hirota et al. (U.S. Patent 6,708,486), Webb et al. (U.S. Patent Application 2003/0074893, and Taylor, III et al. (U.S. Patent Application 2003/0140622) further disclose a state of the art.

*Communication*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (703) 308-2833.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (703) 308-2623. The fax phone number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

*Tu M. Nguyen*

TMN

Tu M. Nguyen

May 2, 2004

Patent Examiner

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